Typical 13 cm AM ATV Amateur Station

The typical AM ATV station communicates with other ATV stations and repeaters using LOS modes.

Characteristics

Values

Frequency Band (MHz) 2390-2396, 2418-2430, 2438-2450 Channel Spacing Information Rate Fast scan video Emission Type(s) visual 5M25C3F Aural 36K0F3E Transmitter Power (dBW) 10 Transmission Line Loss (dB) Transmit: 2 Receive: 0 Antenna Polarization Horizontal Antenna Maximum Gain (dBi) Maximum e.i.r.p. (dBW) 30 Receiver IF Bandwidth 4.2 MHz Receiver Noise Figure (dB)

Receiver Noise Figure (dB)

Receiver Thermal Noise (dBW)

Receiver Signal-to-Noise Ratio (dB)

1 (mast mounted preamp)
-139 (155 kelvin background)
35 dB (4 dB for marginal contacts)

Maximum Path Length (km) line of sight

High End 13 cm Beacon Amateur Station

Characteristics

Values

Frequency Band (MHz) 2304.02 Channel Spacing N/A Information Rate 10 bit/s Emission Type(s) 100HA1A Transmitter Power (dBW) 10 Transmission Line Loss (dB) Transmit:1 Antenna Polarization Horizontal Antenna Maximum Gain (dBi) 10 Maximum e.i.r.p. (dBW) 19 Receiver IF Bandwidth 100 Hz Receiver Noise Figure (dB) 1 dB

Receiver Thermal Noise (dBW) -185 (155 Kelvin background temperature)

Receiver Signal-to-Noise Ratio (dB) +

Maximum Path Length (km) depends on propagation mode

Typical 13 cm Beacon Amateur Station

High gain omnidirectional antennas are often used to maximize the possibility of detecting band openings in different directions.

Characteristics

Values

2304-2305 Frequency Band (MHz) Channel Spacing N/A 10 bit/s Information Rate Emission Type(s) 100HA1A Transmitter Power (dBW) Transmission Line Loss (dB) Transmit:1 Horizontal Antenna Polarization Antenna Maximum Gain (dBi) Maximum e.i.r.p. (dBW) 14 Receiver IF Bandwidth 100 Hz Receiver Noise Figure (dB) 1 dB

Receiver Thermal Noise (dBW) -185 (155 Kelvin background temperature)

Receiver Signal-to-Noise Ratio (dB)

Maximum Path Length (km) depends on propagation mode

9 cm EME Amateur Station on CW -- WB5LUA

Characteristics Values

 Frequency Band (MHz)
 3300-3500

 Channel Spacing
 Random

 Information Rate
 CW: 10 bit/s

 Emission Type(s)
 50H0A1A

 Transmitter Power (dBW)
 24

Transmission Line Loss (dB)

Transmit: 2

Receive: 0

Antenna Polarization Linear; rotatable Antenna Maximum Gain (dBi) 43

Maximum e.i.r.p. (dBW) 65
Receiver IF Bandwidth CW: 50 Hz
Receiver Noise Figure (dB) 0.8

Receiver Thermal Noise (dBW) -193 (20 Kelvin background)

Receiver Signal-to-Noise Ratio (dB) +

Maximum Path Length (km) 396,000 one way to moon at nominal apogee

9 cm EME Amateur Station on SSB

The big EME stations on this band can operate SSB.

Characteristics Values

 Frequency Band (MHz)
 3300-3500

 Channel Spacing
 Random

 Information Rate
 Speech

 Emission Type(s)
 2K50J3E

 Transmitter Power (dBW)
 24

Transmission Line Loss (dB)

Transmit: 2

Receive: 0

Antenna Polarization Linear; rotatable

Antenna Maximum Gain (dBi)
Maximum e.i.r.p. (dBW)

Maximum e.i.r.p. (dBW) 65
Receiver IF Bandwidth SSB: 2500 Hz

Receiver Noise Figure (dB) 0.8

Receiver Thermal Noise (dBW) -176 (10 Kelvin background)

Receiver Signal-to-Noise Ratio (dB)

Maximum Path Length (km) 396,000 one way to moon at nominal apogee

High-End 9 cm SSB Amateur Station

The typical SSB amateur station communicates with other SSB/CW stations using troposcatter.

Characteristics Values

43

 Frequency Band (MHz)
 3300-3500

 Channel Spacing
 Random

 Information Rate
 Speech

 Emission Type(s)
 2K50J3E

 Transmitter Power (dBW)
 17

Transmission Line Loss (dB)

Transmit: 3

Receive: 0

Antenna Polarization Horizontal
Antenna Maximum Gain (dBi) 24
Maximum e.i.r.p. (dBW) 38

Receiver IF Bandwidth SSB:2500 Hz CW:100Hz

Receiver Noise Figure (dB)

Receiver Thermal Noise (dBW) -171 (155 Kelvin background) -185 (CW)

Receiver Signal-to-Noise Ratio (dB)

Maximum Path Length (km) Depends on propagation mode

Typical 9 cm SSB Amateur Station

The typical SSB amateur station communicates with other SSB/CW stations using troposcatter. Characteristics Values

Receive: 0

Receive: 0

Receive: 3

Frequency Band (MHz) 3300-3500 Channel Spacing Random Information Rate Speech Emission Type(s) 2K50J3E Transmitter Power (dBW) Transmission Line Loss (dB) Transmit: 3

Antenna Polarization Horizontal Antenna Maximum Gain (dBi) 24

Maximum e.i.r.p. (dBW) 31 Receiver IF Bandwidth

SSB:2500 Hz CW:100Hz Receiver Noise Figure (dB)

Receiver Thermal Noise (dBW) -171 (155 Kelvin background) -185 (CW) Receiver Signal-to-Noise Ratio (dB)

Maximum Path Length (km)

Depends on propagation mode

High-End 9 cm CW Amateur Station

The High-End CW amateur station communicates with other stations using troposcatter. Characteristics Values

Frequency Band (MHz) 3300-3500 Channel Spacing Random Information Rate 10 bit/s Emission Type(s) 100HA1A Transmitter Power (dBW) Transmission Line Loss (dB) Transmit: 3

Antenna Polarization Horizontal Antenna Maximum Gain (dBi) 24 Maximum e.i.r.p. (dBW) 38

Receiver IF Bandwidth CW:100Hz SSB:2500 Hz

Receiver Noise Figure (dB)

Receiver Thermal Noise (dBW) -185 (155 Kelvin background) -171 (SSB)

Receiver Signal-to-Noise Ratio (dB)

Maximum Path Length (km) Depends on propgation mode

Typical 9 cm CW Amateur Station

The typical CW amateur station communicates with other stations using troposcatter. Characteristics

Frequency Band (MHz) 3300-3500 Channel Spacing Random Information Rate 10 bit/s Emission Type(s) 100HA1A Transmitter Power (dBW)

Transmission Line Loss (dB) Transmit: 3 Antenna Polarization Horizontal

Antenna Maximum Gain (dBi) 24 Maximum e.i.r.p. (dBW)

Receiver IF Bandwidth CW:100Hz SSB:2500 Hz

Receiver Noise Figure (dB)

Receiver Thermal Noise (dBW) -181 (155 Kelvin background) -167 for SSB

Receiver Signal-to-Noise Ratio (dB)

Maximum Path Length (km) Depends on the propagation mode

Note: CW is often necessary on transmit to extend the range at this power level.

Typical 9 cm Beacon Amateur Station Characteristics

Frequency Band (MHz) Channel Spacing Information Rate

Emission Type(s)
Transmitter Power (dBW)
Transmission Line Loss (dB)
Antenna Polarization

Antenna Maximum Gain (dBi) Maximum e.i.r.p. (dBW) Receiver IF Bandwidth

Receiver Noise Figure (dB)
Receiver Thermal Noise (dBW)
Receiver Signal-to-Noise Ratio (dB)

Maximum Path Length (km)

Values

3300-3500 N/A 10 bit/s 100HA1A

Transmit:1 Horizontal 9

15 100 Hz 1 dB

-185 (155 Kelvin background temperature)

+1

depends on propagation mode

6 cm EME Amateur Station on CW -- WB5LUA

Characteristics

Values

Frequency Band (MHz) 5650-5925
Channel Spacing Random
Information Rate CW: 10 bit/s
Emission Type(s) 50H0A1A
Transmitter Power (dBW) 17

Transmission Line Loss (dB) Transmit: 2 Receive: 0

Antenna Polarization Linear; rotatable Antenna Maximum Gain (dBi) 47

Maximum e.i.r.p. (dBW) 62
Receiver IF Bandwidth CW: 50 Hz
Receiver Noise Figure (dB) 0.9

Receiver Thermal Noise (dBW) -189 (120 Kelvin background)

Receiver Signal-to-Noise Ratio (dB) +1

Maximum Path Length (km) 396,000 one way to moon at nominal apogee

High-End 6 cm SSB Amateur Station

The typical SSB amateur station communicates with other SSB/CW stations using troposcatter.

Characteristics Values

Frequency Band (MHz) 5650-5925
Channel Spacing Random
Information Rate Speech
Emission Type(s) 2K50J3E
Transmitter Power (dBW) 18

Transmission Line Loss (dB)

Transmit: 3

Receive: 0

Antenna Polarization Horizontal
Antenna Maximum Gain (dBi) 34
Maximum e.i.r.p. (dBW) 49

Receiver IF Bandwidth SSB:2500 Hz CW:100Hz

Receiver Noise Figure (dB)

Receiver Thermal Noise (dBW) -171 (155 Kelvin background) -185 (CW)

Receiver Signal-to-Noise Ratio (dB) +6

Maximum Path Length (km) Depends on propagation mode

Typical 6 cm SSB Amateur Station

The typical SSB amateur station communicates with other SSB/CW stations using troposcatter.

Characteristics Values

 Frequency Band (MHz)
 5650-5925

 Channel Spacing
 Random

 Information Rate
 Speech

 Emission Type(s)
 2K50J3E

 Transmitter Power (dBW)
 10

Transmission Line Loss (dB)

Transmit: 3

Receive: 0

Antenna Polarization Horizontal Antenna Maximum Gain (dBi) 28

Maximum e.i.r.p. (dBW) 35
Receiver IF Bandwidth SSB:2500 Hz CW:100Hz

Receiver Noise Figure (dB) 1

Receiver Thermal Noise (dBW) -171 (155 Kelvin background) -185 (CW)

Receiver Signal-to-Noise Ratio (dB)

Maximum Path Length (km) Depends on propagation mode

High-End 6 cm CW Amateur Station

The High-End CW amateur station communicates with other stations using troposcatter.

Characteristics Values

Receive: 0

Values

Frequency Band (MHz)
Channel Spacing
Information Rate
Emission Type(s)
Transmitter Power (dBW)
3300-3500
Random
10 bit/s
100HA1A
18

Transmission Line Loss (dB)

Antenna Polarization

Transmit: 3

Horizontal

Antenna Maximum Gain (dBi) 34 Maximum e.i.r.p. (dBW) 49

Receiver IF Bandwidth CW:100Hz SSB:2500 Hz

Receiver Noise Figure (dB)

Receiver Thermal Noise (dBW) -185 (155 Kelvin background) -171 (SSB)

Receiver Signal-to-Noise Ratio (dB) +

Maximum Path Length (km) Depends on propgation mode

Typical 6 cm CW Amateur Station

The typical CW amateur station communicates with other stations using troposcatter.

Characteristics Values

Frequency Band (MHz) 5650-5925
Channel Spacing Random
Information Rate 10 bit/s
Emission Type(s) 100HA1A

Transmitter Power (dBW) 3

Transmission Line Loss (dB)

Transmit: 3

Receive: 3

Antenna Polarization Horizontal
Antenna Maximum Gain (dBi) 28
Maximum e.i.r.p. (dBW) 28

Receiver IF Bandwidth CW:100Hz SSB:2500 Hz

Receiver IF Bandwidth CW:100Hz SS Receiver Noise Figure (dB) 1

Receiver Thermal Noise (dBW) -181 (155 Kelvin background) -167 for SSB

Receiver Signal-to-Noise Ratio (dB)

Maximum Path Length (km) Depends on the propagation mode

Note: CW is often necessary on transmit to extend the range at this power level.

Typical 6 cm Beacon Amateur Station Characteristics

Frequency Band (MHz) 5650-5925

Channel Spacing N/A
Information Rate 10 bit/s

Emission Type(s) 100HA1A, 100HJ2A

Transmitter Power (dBW) 7
Transmission Line Loss (dB) Transmit:1
Antenna Polarization Horizontal
Antenna Maximum Gain (dBi) 9
Maximum e.i.r.p. (dBW) 15

Receiver IF Bandwidth 100 Hz
Receiver Noise Figure (dB) 1 dB

Receiver Thermal Noise (dBW) -185 (155 Kelvin background temperature)

Receiver Signal-to-Noise Ratio (dB)

Maximum Path Length (km) depends on propagation mode

Big 3 cm EME Amateur Station on CW--WA7CJO Characteristics

Frequency Band (GHz) 10.0-10.5
Channel Spacing Random
Information Rate CW: 10 bit/s
Emission Type(s) 50H0A1A
Transmitter Power (dBW) 26

Transmission Line Loss (dB)

Transmit: 1

Receive: 0

Antenna Polarization Linear; rotatable

 Antenna Maximum Gain (dBi)
 51

 Maximum e.i.r.p. (dBW)
 76

 Receiver IF Bandwidth
 CW: 400 Hz

 Receiver Noise Figure (dB)
 1

Receiver Thermal Noise (dBW) -177 (260 Kelvin background)

Receiver Signal-to-Noise Ratio (dB) +

Maximum Path Length (km) 396,000 one way to moon at nominal apogee

Note: EME is tougher on this band due to the wobbling and noise of the moon, which increases the receiver bandwidth and increases the background temperature.

Values

Typical 3 cm EME Amateur Station

The typical EME model is capable of CW communication with other EME stations.

Characteristics Values

Frequency Band (MHz) 10,000-10,500
Channel Spacing Random
Information Rate CW: 10 bit/s
Emission Type(s) 50H0A1A
Transmiter Power (dBW) 15
Transmits I like Loss (dB)

Transmission Line Loss (dB)

Transmit: 1

Receive: 0

Antenna Polarization Linear; rotatable
Antenna Maximum Gain (dBi) 48.5

Maximum e.i.r.p. (dBW) 61.5

Receiver IF Bandwidth CW: 400 Hz

Receiver Noise Figure (dB)

Receiver Thermal Noise (dBW) -178 (230 Kelvin background)

Receiver Signal-to-Noise Ratio (dB)

Maximum Path Length (km) 396,000 one way to moon at nominal apogee

High End 3 cm SSB Amateur Station

The high-end SSB amateur station communicates with other SSB/CW stations using troposcatter.

Characteristics Values

Frequency Band (MHz) 10,000-10,500
Channel Spacing Random
Information Rate Speech
Emission Type(s) 2K50J3E
Transmitter Power (dBW) 14

Transmission Line Loss (dB)

Antenna Polarization

Transmit: 1

Receive: 0

Horizontal

Antenna Maximum Gain (dBi) 40 Maximum e.i.r.p. (dBW) 53

Receiver IF Bandwidth SSB:2500 Hz CW:100 Hz

Receiver Noise Figure (dB)

Receiver Thermal Noise (dBW) -171 (155 Kelvin background) -185 (CW)

Receiver Signal-to-Noise Ratio (dB)

Maximum Path Length (km) Depends on propagation mode

Typical 3 cm SSB Amateur Station

The typical SSB amateur station communicates with other SSB/CW stations using troposcatter.

Characteristics Values

Receive: 1

Frequency Band (MHz) 10,000-10,500
Channel Spacing Random
Information Rate Speech
Emission Type(s) 2K50J3E
Transmitter Power (dBW) 6

Transmission Line Loss (dB)

Antenna Polarization

Transmit: 1

Horizontal

Antenna Maximum Gain (dBi)

Maximum e.i.r.p. (dBW)

Antenna Maximum e.i.r.p. (dBW)

Receiver IF Bandwidth SSB:2500 Hz CW:100Hz

Receiver Noise Figure (dB) 2

Receiver Thermal Noise (dBW) -168 (155 Kelvin background) -182 (CW)

Receiver Signal-to-Noise Ratio (dB) +

Maximum Path Length (km) Depends on propagation mode

High-End 3 cm CW Amateur Station

The High-End CW amateur station communicates with other stations using troposcatter.

Characteristics Values

Frequency Band (MHz) 10,000-10,500
Channel Spacing Random
Information Rate 10 bit/s
Emission Type(s) 100HA1A
Transmitter Power (dBW) 14
Transmission Line Loss (dB) Transmit: 1

Transmission Line Loss (dB)

Antenna Polarization

Transmit: 1

Horizontal

Receive: 0

Antenna Maximum Gain (dBi) 40 Maximum e.i.r.p. (dBW) 53

Receiver IF Bandwidth CW:100Hz SSB:2500 Hz

Receiver Noise Figure (dB) 1

Receiver Thermal Noise (dBW) -185 (155 Kelvin background) -171 (SSB)

Receiver Signal-to-Noise Ratio (dB)

Maximum Path Length (km) Depends on propgation mode

Typical 3 cm CW Amateur Station

The typical CW amateur station communicates with other stations using troposcatter.

Characteristics Values

Frequency Band (MHz)
Channel Spacing
Information Rate
Emission Type(s)

2300-2310
Random
10 bit/s
100HA1A

Transmitter Power (dBW)

Transmission Line Loss (dB)

Transmit: 1

Receive: 1

Antenna Polarization Horizontal
Antenna Maximum Gain (dBi) 34
Maximum e.i.r.p. (dBW) 34

Receiver IF Bandwidth CW:100Hz SSB:2500 Hz

Receiver Noise Figure (dB)

Receiver Thermal Noise (dBW) -182 (155 Kelvin background) -168 for SSB

Receiver Signal-to-Noise Ratio (dB)

Maximum Path Length (km) Depends on the propagation mode

Note: CW is often necessary on transmit to extend the range at this power level.

Typical 3 cm SSB Satellite Amateur Station

Characteristics

Values

Transmit: 0 Receive: 0

Frequency Band (MHz) 10,000-10,500 Channel Spacing Random Information Rate Speech Emission Type(s) 2K50J3E Transmitter Power (dBW)

Transmission Line Loss (dB)

Antenna Polarization RHCP Antenna Maximum Gain (dBi) 34 Maximum e.i.r.p. (dBW) Receiver IF Bandwidth 2500 Hz

Receiver Noise Figure (dB)

Receiver Thermal Noise (dBW) -175 (10 Kelvin background)

Receiver Signal-to-Noise Ratio (dB) +6 Maximum Path Length (km) 45,000km

Typical 3 cm CW Satellite Amateur Station

Characteristics

Values

Frequency Band (MHz) 10.000-10.500 Channel Spacing Random Information Rate 10 bit/s Emission Type(s) 100HA1A Transmitter Power (dBW)

Transmission Line Loss (dB) Transmit: 0 Receive:0 Antenna Polarization RHCP, Horizontal, or Vertical

Antenna Maximum Gain (dBi)

34 Maximum e.i.r.p. (dBW) Receiver IF Bandwidth 100 Hz Receiver Noise Figure (dB) Receiver Thermal Noise (dBW) -189 Receiver Signal-to-Noise Ratio (dB) +1 Maximum Path Length (km) 45,000km

Typical 3 cm Repeater Amateur Station

The WB6IGP repeater is 10 MHz wide and linear.

Characteristics **Values**

Frequency Band (MHz) 10363-10373

Channel Spacing

Information Rate

SSB, CW, NBFM, ATV Emission Type(s)

Transmitter Power (dBW)

Transmission Line Loss (dB) Transmit: 0 Receive: 0

Antenna Polarization Horizontal Antenna Maximum Gain (dBi) 13 Maximum e.i.r.p. (dBW) 13 Receiver IF Bandwidth 10 MHz Receiver Noise Figure (dB) 2

Receiver Thermal Noise (dBW) Receiver Signal-to-Noise Ratio (dB)

Maximum Path Length (km) Depends on propagation mode

Typical 3 cm WBFM Amateur Station

The typical FM voice station can communicate with other FM voice amateur stations. Characteristics Values

Frequency Band (MHz) 10,000-10,500 Channel Spacing Random Information Rate Speech 200K0F3E Emission Type(s) Transmitter Power (dBW) -20

Transmission Line Loss (dB) Transmit: 0 Antenna Polarization Vertical Antenna Maximum Gain (dBi) 17 Maximum e.i.r.p. (dBW) -3

Receiver IF Bandwidth 200kHz Receiver Noise Figure (dB) 12

-139 (155 Kelvin background) Receiver Thermal Noise (dBW)

Receiver Signal-to-Noise Ratio (dB)

Maximum Path Length (km) Depends on propagation mode

Typical 3 cm AM ATV Amateur Station

The typical AM ATV station communicates with other ATV stations and repeaters using LOS modes.

Receive: 0

Characteristics **Values**

Frequency Band (MHz) 10,000-10,500 Channel Spacing 6 MHz Information Rate Fast scan video

visual 5M25C3F Aural 36K0F3E Emission Type(s)

Transmitter Power (dBW)

Transmit: 0 Receive: 0 Transmission Line Loss (dB) Horizontal Antenna Polarization Antenna Maximum Gain (dBi) 34 34 Maximum e.i.r.p. (dBW)

4.2 MHz Receiver IF Bandwidth 1 (mast mounted preamp) Receiver Noise Figure (dB) Receiver Thermal Noise (dBW) -139 (155 kelvin background) 35 dB (4 dB for marginal contacts) Receiver Signal-to-Noise Ratio (dB)

Maximum Path Length (km) line of sight

Typical 3 cm Packet Amateur Station

Packet stations are typically used for point to point links on this band.

Characteristics **Values**

10000-10500 Frequency Band (MHz) Channel Spacing random 2Mb/s Information Rate 2M5F3E Emission Type(s) Transmitter Power (dBW) -20

Transmit: 0 Receive: 0 Transmission Line Loss (dB) Horizontal Antenna Polarization Antenna Maximum Gain (dBi) 34 Maximum e.i.r.p. (dBW) 14

2.5 MHz

Receiver IF Bandwidth Receiver Noise Figure (dB) 12 dB -128 Receiver Thermal Noise (dBW) Receiver Signal-to-Noise Ratio (dB) 15

line of sight Maximum Path Length (km)

Typical 3 cm Beacon Amateur Station

High gain omnidirectional antennas are often used to maximize the possibility of detecting band openings in different directions.

Characteristics

Values

Frequency Band (MHz)
Channel Spacing
Information Rate
Emission Type(s)
Transmitter Power (dBW)
Transmission Line Loss (dB)
Antenna Polarization
Antenna Maximum Gain (dBi)
Maximum e.i.r.p. (dBW)
Receiver IF Bandwidth
Receiver Noise Figure (dB)
Receiver Thermal Noise (dBW)
Receiver Signal-to-Noise Ratio (dB)
Maximum Path Length (km)

10,000-10,500 N/A 10 bit/s 100HA1A 1 Transmit:0 Horizontal 13 13 100 Hz 1 dB

-185 (155 Kelvin background temperature)

+1

depends on propagation mode

High End 1.2 cm SSB Amateur Station

The high-end SSB amateur station communicates with other SSB/CW stations using troposcatter. Values Characteristics

Receive: 0.5

Frequency Band (MHz) 24,000-24,250 Channel Spacing Random Information Rate Speech 2K50J3E Emission Type(s) Transmitter Power (dBW) -10 Transmit: 0.5

Transmission Line Loss (dB) Horizontal Antenna Polarization 40 Antenna Maximum Gain (dBi) 29.5 Maximum e.i.r.p. (dBW)

SSB:2500 Hz CW:100 Hz Receiver IF Bandwidth

Receiver Noise Figure (dB)

Receiver Thermal Noise (dBW) -165 (290 Kelvin background) -179 (CW)

+6 Receiver Signal-to-Noise Ratio (dB)

Maximum Path Length (km) Depends on propagation mode

Typical 1.2 cm SSB Amateur Station

The typical SSB amateur station communicates with other SSB/CW stations using troposcatter. Characteristics

24,000-24,250 Frequency Band (MHz) Random Channel Spacing Speech Information Rate Emission Type(s) 2K50J3E -33 Transmitter Power (dBW)

Transmission Line Loss (dB) Transmit: 0.5 Receive: 0.5

Antenna Polarization Horizontal Antenna Maximum Gain (dBi) 34 0.5 Maximum e.i.r.p. (dBW)

Receiver IF Bandwidth SSB:2500 Hz CW:100Hz 12

Receiver Noise Figure (dB)

-157 (290 Kelvin background) -171 (CW) Receiver Thermal Noise (dBW)

Receiver Signal-to-Noise Ratio (dB)

Depends on propagation mode Maximum Path Length (km)

High-End 1.2 cm CW Amateur Station

The High-End CW amateur station communicates with other stations using troposcatter. Values Characteristics

24,000-24,250 Frequency Band (MHz) Random Channel Spacing 10 bit/s Information Rate 100HA1A Emission Type(s) -10 Transmitter Power (dBW)

Receive: 0 Transmit: 1 Transmission Line Loss (dB)

Horizontal Antenna Polarization Antenna Maximum Gain (dBi) 40 29.5 Maximum e.i.r.p. (dBW)

CW:100Hz SSB:2500 Hz Receiver IF Bandwidth Receiver Noise Figure (dB)

-179 (290 Kelvin background) -165 (SSB) Receiver Thermal Noise (dBW) Receiver Signal-to-Noise Ratio (dB)

Depends on propgation mode Maximum Path Length (km)

Typical 1.2 cm CW Amateur Station

The typical CW amateur station communicates with other stations using troposcatter. Characteristics

24,000-24.250 Frequency Band (MHz) Random Channel Spacing Information Rate 10 bit/s 100HA1A Emission Type(s) Transmitter Power (dBW) -33 Transmit: 0.5

Transmission Line Loss (dB) Horizontal Antenna Polarization Antenna Maximum Gain (dBi)

0.5 Maximum e.i.r.p. (dBW) Receiver IF Bandwidth

CW:100Hz SSB:2500 Hz Receiver Noise Figure (dB) 12

-171 (290 Kelvin background) -157 for SSB Receiver Thermal Noise (dBW)

Receiver Signal-to-Noise Ratio (dB) Depends on the propagation mode Maximum Path Length (km)

Note: CW is often necessary on transmit to extend the range at this power level.

Typical 1.2 cm SSB Satellite Amateur Station

Characteristics **Values**

2500 Hz

Receive: 0.5

24,000-24,050 Frequency Band (MHz) Random Channel Spacing Speech Information Rate 2K50J3E Emission Type(s)

Transmitter Power (dBW) Receive: 0.5 Transmission Line Loss (dB) RHCP Antenna Polarization 40 Antenna Maximum Gain (dBi)

Maximum e.i.r.p. (dBW) Receiver IF Bandwidth

Receiver Noise Figure (dB) -167 (30 Kelvin background)

Receiver Thermal Noise (dBW) Receiver Signal-to-Noise Ratio (dB) +6 45,000km Maximum Path Length (km)

Typical 1.2 cm CW Satellite Amateur Station

Characteristics **Values**

24,000-24.050 Frequency Band (MHz) Random **Channel Spacing** 10 bit/s Information Rate 100HA1A Emission Type(s)

Transmitter Power (dBW) Receive: 0.5 Transmission Line Loss (dB) RHCP, Horizontal, or Vertical Antenna Polarization

40 Antenna Maximum Gain (dBi) Maximum e.i.r.p. (dBW)

100 Hz Receiver IF Bandwidth Receiver Noise Figure (dB)

-181 (30 Kelvin background) Receiver Thermal Noise (dBW)

Receiver Signal-to-Noise Ratio (dB)

45,000km Maximum Path Length (km)

Typical 1.2 cm WBFM Amateur Station

The typical FM voice station can communicate with other FM voice amateur stations. Characteristics

Frequency Band (MHz) 24.000-24.250 Channel Spacing Random Information Rate Speech Emission Type(s) 200K0F3E Transmitter Power (dBW) -13

Transmission Line Loss (dB) Transmit: 0 Antenna Polarization Vertical Antenna Maximum Gain (dBi) 40 Maximum e.i.r.p. (dBW) 27 Receiver IF Bandwidth 200kHz

Receiver Noise Figure (dB) Receiver Thermal Noise (dBW) -138 (290 Kelvin background)

Receiver Signal-to-Noise Ratio (dB) +10

Maximum Path Length (km) Depends on propagation mode

Typical 1.2 cm AM ATV Amateur Station

The typical AM ATV station communicates with other ATV stations and repeaters using LOS modes.

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Receive: 0

Characteristics Values

24,000-24,250 Frequency Band (MHz) Channel Spacing 6 MHz Information Rate Fast scan video

Emission Type(s) visual 5M25C3F Aural 36K0F3E

Transmitter Power (dBW) -13

Transmission Line Loss (dB) Transmit: 0 Receive: 0 Antenna Polarization Horizontal Antenna Maximum Gain (dBi) 40 Maximum e.i.r.p. (dBW) 27

Receiver IF Bandwidth 4.2 MHz Receiver Noise Figure (dB) 12

Receiver Thermal Noise (dBW) -124 (290 kelvin background) 35 dB (4 dB for marginal contacts) Receiver Signal-to-Noise Ratio (dB)

Maximum Path Length (km) line of sight

Typical 1.2 cm Packet Amateur Station

Packet stations are typically used for point to point links on this band.

Characteristics **Values**

Frequency Band (MHz) 24.000-24.250 Channel Spacing random Information Rate 2Mb/s Emission Type(s) 2M5F3E Transmitter Power (dBW) -20

Transmission Line Loss (dB) Transmit: 0 Receive: 0 Antenna Polarization Horizontal

Antenna Maximum Gain (dBi) 40 Maximum e.i.r.p. (dBW) 20 2.5 MHz Receiver IF Bandwidth Receiver Noise Figure (dB) 12 dB

Receiver Thermal Noise (dBW) -127 (290 Kelvin background) 15

Receiver Signal-to-Noise Ratio (dB)

Maximum Path Length (km) line of sight